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Useful Metric Formula

**NOTE:** These formula are theoretical and an allowance for the inefficiency in practise should be made. For example-: for a 10% margin, multiply results by 1.1

<u>Kilowatts</u>	KW	=	$\frac{\text{BAR} \times \text{L/M}}{600}$
	KW	=	$\frac{\text{BAR} \times \text{CC/REV} \times \text{RPM}}{600 \times 1000}$
	KW	=	$\frac{\text{NM} \times \text{RPM}}{9550}$
<u>Pressure</u>	BAR	=	$\frac{\text{KW} \times 600}{\text{L/M}}$
	BAR	=	$\frac{\text{KW} \times 600 \times 1000}{\text{CC/REV} \times \text{RPM}}$
<u>Pump Displacement</u>	CC/REV	=	$\frac{\text{KW} \times 600 \times 1000}{\text{BAR} \times \text{RPM}}$
<u>Flow Rate</u>	L/M	=	$\frac{\text{KW} \times 600}{\text{BAR}}$
<u>Torque</u>	NM	=	$\frac{\text{KW} \times 9550}{\text{RPM}}$
	NM	=	$\frac{\text{BAR} \times \text{CC/REV}}{62.8}$
<u>Speed</u>	RPM	=	$\frac{\text{KW} \times 9550}{\text{NM}}$
<u>Motor Displacement</u>	CC/REV	=	$\frac{\text{NM} \times 20 \times \pi}{\text{BAR}}$

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Area of a circle		=	$\frac{\pi D^2}{4}$
Where	$\pi$	=	3.1416
	D	=	Diameter
Cylinder Displacement		=	(Piston Area x Stroke x 2) – (Rod Area x Stroke)